Chapter 1

Introduction

Write a short introduction here...

1.1 Motivation

1.1.1 Why variants ?

1.1.2 Research questions

RQ1. To what extent can we artifically generate program variants for WebAssembly?

The main motivation for this research question is that WebAssembly was adopted in 2017, and it lacks of natural diversity [?] . Moreover, compared to the work of Harrand et al. [?] , in WebAssembly, we cannot use preexisting and different programs to provide diversification. In fact, according to the work of Hilbig et al. [?] , the artificial variants created with one of our works contributes to the half of executable and available WebAssembly binaries in the wild.

RQ2. To what extent are the generated variants dynamically different?

RQ3. To what extent do the artificial variants exhibit different execution times on Edge-Cloud platforms?

1.2 Contributions